

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
22 March 2001 (22.03.2001)

PCT

(10) International Publication Number
WO 01/19896 A1(51) International Patent Classification⁷: C08G 65/48,
C08J 5/22, H01M 6/18, 10/40, 8/10, 2/16Vitrex Technology Centre, Hillhouse International, P.O.
Box 4, Thornton Cleveleys, Lancashire FY5 4QD (GB).

(21) International Application Number: PCT/GB00/03449

(72) Inventors; and

(22) International Filing Date:

8 September 2000 (08.09.2000)

(75) Inventors/Applicants (for US only): WILSON, Brian

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

PCT/GB/02833

10 September 1999 (10.09.1999) GB

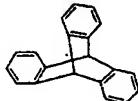
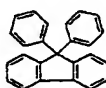
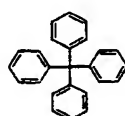
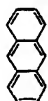
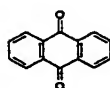
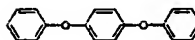
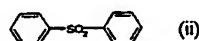
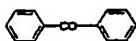
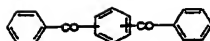
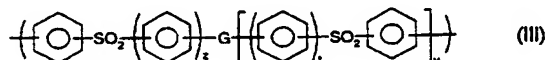
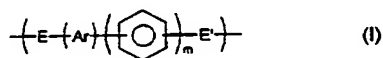
0006884.1

22 March 2000 (22.03.2000) GB

(74) Agents: BRIERLEY, Anthony, Paul et al.; Appleyard
Lees, 15 Clare Road, Halifax HX1 2HY (GB).(71) Applicant (for all designated States except US): VIC-
TREX MANUFACTURING LIMITED [GB/GB];(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,

[Continued on next page]

(54) Title: COMPOSITE ION-EXCHANGE MEMBRANES



(57) Abstract: A composite membrane for use as an ion-exchange membrane includes a conductive polymer and a support material for the polymer, said polymer having a moiety of formula (I) and/or a moiety of formula (II) and/or a moiety of formula (III), wherein at least some of the units I, II and/or III are functionalized to provide ion exchange sites; wherein the phenyl moieties in units I, II, and III are independently optionally substituted and optionally cross-linked; and wherein m, r, s, t, v, w and z independently represent zero or a positive integer, E and E' independently represent an oxygen or a sulphur atom or a direct link, G represents an oxygen or sulphur atom, a direct link or a -O-Ph-O- moiety where Ph represents a phenyl group and Ar is selected from one of the following moieties (i)*, (i) to (x) which is bonded via one or more of its phenyl moieties to adjacent moieties.

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HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

- (84) **Designated States (regional):** ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

- *With international search report.*
- *Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.*

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